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OLDEST BEE PAPER IN AMERICA

GEORGE W. YORK,
Editor.

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NO. 25.



DECEMBER.

Dull skies above, dead leaves below;
And hungry winds that whining go.
Like faithful hounds upon the track
Of one beloved that comes not back.

—Selected.

A Merry Christmas to All the readers of the BEE JOURNAL. is our wish at this happiest season of the year. We hope that everybody may have an enjoyable time, and live to see many returns of the blessed Christmas time. Again we wish you—

A MERRY CHRISTMAS.

Every scientific bee-keeper is an enthusiast. The wonderful economy of the bee-hive, from its very nature, presents to the thoughtful student, both admiration and delight at every step.—*Newman.*

Mr. G. B. Lewis, of the well-known bee-supply firm of G. B. Lewis Co., is spending the winter in Florida. How nice it would be if all of us in the cold North could pass the winter in Sunny Southland. We are glad that at least a few can enjoy that luxury, which they doubtless fully appreciate.

Foul Brood in a Bee-Tree.—A bad case of foul brood was discovered in a wild or runaway swarm in a hollow tree in Canada, says the *Michigan Farmer*. The bees were dead, and other bees were robbing the comb, and probably carrying the contagion back to their hives. The discoverer plastered up the entrance to the honey so that no more bees could get in there, and expected to cut up the tree for fuel in the winter when no bees are about. It has generally been supposed that such colonies were not troubled with foul brood, and this may explain how it starts in some apiaries when the bees appear to be doing very well.

So long as the bees are not diseased, and can find no work to do abroad, their winter nap had better be continued.—*Dr. Miller.*

Corn-cob Syrup—Glucose Honey

At least one fellow has received a portion of his just deserts for selling honey adulterated with glucose, we learn from the Columbus, O., *Dispatch*, a marked copy of which was sent to us recently. Here is the account as published:

Information of the manner in which a Pittsburgh drummer was taken in by one of the Assistant Food and Dairy Commissioners was given out at the department to-day. George Ramsey, salesman for W. A. Cruickshank & Co., sold in a number of Ohio towns honey adulterated with glucose. An affidavit was filed, and a warrant issued for his arrest last August, but he kept out of the way of the authorities until a few days ago he showed up in Youngstown, where he was arrested and plead guilty, being fined \$25 and costs.

Commissioner McNeal has a sample of "maple" syrup made out of boiled corn-

cobs and yellow sugar. It was not made for market, but by some one to show what can be done in this direction. It would pass as a pretty fair article of maple, and if sold for the genuine would not be as objectionable as many of the adulterations that have been disposed of in large quantities, not only of maple, but of various other articles of food. If sold as a substitute for the genuine, it would not be in violation of law, but being an imitation it cannot be put on the market as maple.

Corn-cob syrup! What next? The first thing bee-keepers know, some "smarty" will be boiling old bee-hives (dead bees and all) in water, and call the liquid "pure bee's honey! Why, it would hardly be believed, but here in Chicago many people are afraid to buy maple syrup or extracted honey, fearing that they will only get some villainous mixtures called "syrup" and "honey."

The maple syrup producers can take care of themselves, but we believe that bee-keepers should begin a campaign of education everywhere, and inform the people that pure extracted honey can be obtained, and at a reasonable price. The fact is, many people do not know how pure honey tastes; and being disgusted with the vile compounds offered them in many groceries, they give up the idea of buying honey, and cease to call for it when getting table necessities. Friends, these things ought not so to be. It seems to us there ought to be wisdom and enterprise enough in the bee-keeping fraternity to devise some means by which pure honey shall be found on every table in the land. What an outlet for the honey crop that would make! and what profit there would be where now is unprofitable production!

When this question is satisfactorily solved, we believe there will come to the pursuit of apiculture such a boom as the most enthusiastic has not yet dreamed of. We are willing to try to do our part toward insuring the coming of that boom. Who will help erect a guide-board that shall point toward the right road leading to the desired haven?

Read and study out subjects of interest; and be ready to begin the ensuing season's work promptly, with an adequate comprehension of the extent of the business to be conducted, and a just appreciation of the details therein involved.—*Quinby.*

The Michigan State Convention

—We have received the following from Secretary Hutchinson, concerning the coming convention of the Michigan Bee-Keepers' Association:

The Michigan State Bee-Keepers' Association will hold its 28th annual meeting in the Common Council Chambers, at the City Hall, in Flint, on Tuesday and Wednesday, Jan. 2nd and 3rd. The room is nicely carpeted, furnished with chairs, desks and tables, well lighted, and away from the racket of the main street. There is a convenient room adjoining, in which supplies and implements can be exhibited. The headquarters for bee-keepers will be at the Dayton House, a most excellent, clean, and well-furnished, but home-like place, where rates to bee-keepers will be only \$1.00 per day. The time for holding the meeting is placed when in all probability there will be holiday rates on all railroads.

The following programme has been arranged:

FIRST DAY—MORNING SESSION.

10:30 a.m.—Experimental Work at Experiment Stations—Hon. R. L. Taylor, of Lapeer.

FIRST DAY—AFTERNOON SESSION.

1:30 p.m.—Advantages of Northern Michigan for Honey Production—Hon. Geo. E. Hilton, of Fremont.

3:00—The Future of the Supply Trade—M. H. Hunt, of Bell Branch.

FIRST DAY—EVENING SESSION.

7:00 p.m.—Advantages that Bee-Keepers May Expect from Bees and Honey Having Been Shown at the World's Fair—H. D. Cutting, of Tecumseh.

SECOND DAY—MORNING SESSION.

9:00 a.m.—Moisture in the Bee-Cellar; What It Can Do and What We Can Do—S. Cornell, of Lindsay, Ont.

10:30 a.m.—The Future of Bee-Keeping—James Heddon, of Dowagiac.

SECOND DAY—AFTERNOON SESSION.

1:30 p.m.—Preparing the Apiary for Winter—R. F. Holtermann, of Brantford, Ont.

3:00 p.m.—Selling Honey Without Employing Commission Men—Byron Walker, of Évart.

It will be noticed that care has been taken not to crowd the programme, as the Secretary believes that a few topics thoroughly discussed are more profitable than a greater number but briefly touched upon. There is also time in which to discuss the little side-issues that are continually springing up.

The association is invited to hold one session (say in the evening of the first day) at the home of the *Review*, corner of Wood and Saginaw streets, where there will be an opportunity to sample some delicious orange blossom honey from California.

W. Z. HUTCHINSON, Sec'y.

The kind invitation from Bro. Hutchin-

son, to hold one meeting at his home ought to call out a good attendance. But somehow we are inclined to think that dear Baby Fern will be a greater attraction than the "orange blossom honey." However, they may be synonymous in sweetness; and we only wish we could be there to "sample" both.

Big Offer to Renewals.—We would like to call the attention of those whose subscriptions expire with this month, to the following paragraphs, in which we make a grand offer:

Of course we hope to have your renewal. With such offers as we are now making, you certainly cannot refuse. There is no other bee-paper in the United States in which you get so much value for so little cost as in the AMERICAN BEE JOURNAL at \$1.00 a year; and we trust, moreover, that our old subscribers will show their appreciation of our effort to give them the best bee-paper at the lowest price, by prompt renewals. Will not you?

ANOTHER MATTER.—With such a journal as we are publishing, and such terms as we are offering, we ought to double the circulation of the BEE JOURNAL before spring. If each of our present subscribers will promptly renew, and at the same time send us one new subscriber, this will be accomplished at once.

Now, to secure one new subscriber to a weekly paper like the BEE JOURNAL, published at only *only* \$1.00 a year, is certainly a very little thing for any one to do. It would seem that any subscriber could afford to do that as an expression of appreciation of the opportunity to get the paper for himself for only \$1.00 a year. But we don't ask you to do that.

WE WILL DO BETTER.—If you will, before Jan. 15, 1894, send us your own renewal for one year, and send with it one new yearly subscriber, we will consider it a club of two, and give you any premium offered for sending two new subscribers, on page 773.

Now we know you never had an offer from any other bee-paper that would compare with that. Just look at it all through.

1st. We furnish you a weekly bee-paper for only \$1.00 a year.

2nd. We give a premium for sending a club of only two subscribers.

3rd. We allow you to count your own subscription as one of the club of two.

Surely, we have a right to hope that every expiring subscription will at once be renewed, and at least one new subscriber be sent with it.

Why, on such offers as we are making, if you have not time to go out and get the new subscriber, you could afford to send the paper to some person as a Holiday present. It would then only cost for yourself and your friend about as much as your own paper would usually cost, and you would get your club premium besides.

Let us have your renewal, and do all you can to extend the circulation of the old AMERICAN BEE JOURNAL.

The "Dec93" Label.—All whose address labels on their BEE JOURNAL wrappers read "Dec93," will please remember that their subscriptions expire with the end of this month; and they are all most earnestly invited to renew, which we trust they will do promptly.

It has been the rule of the BEE JOURNAL for years to send it right along until the subscribers order it discontinued, and pay up all that is due, believing that the great majority of readers so prefer it. Now, it is very little trouble to drop us a postal card if you do not want the BEE JOURNAL after your subscription expires, and it is scarcely any more trouble to *renew your subscription*, so why not do the latter? We need your company, and you want—yes, *need*—the BEE JOURNAL, so we earnestly invite you all to remain with us during 1894—yes, and some more after that, we hope.

The Long Winter Evenings is just the time to "read up" on bee-keeping. Look over our book list on the 3rd page of this number of the BEE JOURNAL, and then order one or more books when renewing your subscription. Our book clubbing offers are found on page 799 of this issue also. Look it over now, before you forget it. It will pay you.

Honey as Food and Medicine is just the thing to help sell honey, as it shows the various ways in which honey may be used as a food and as a medicine. Try 100 copies of it, and see what good "salesmen" they are. See the third page of this number of the BEE JOURNAL for description and prices.

GENERAL QUESTIONS.

In this department will be answered those questions needing IMMEDIATE attention, and such as are not of sufficient special interest to require replies from the 20 or more apiarists who help to make "Queries and Replies" so interesting on another page. In the main, it will contain questions and answers upon matters that particularly interest beginners.—Ed.

Fumigating Foul-Broody Combs.

In answering my question on page 683, you omitted the important part of the question, or perhaps I made the mistake myself. After "combs" please insert "from foul-broody hives," and answer accordingly. I. W. B.

Ft. Lupton, Colo.

ANSWER—Now you are making an entirely different question, reading, "Can combs from foul-broody hives containing pollen but no honey be fumigated so as to be entirely safe?" Some may say that such combs can be so treated as to make it safe to use, but a greater number will tell you that the only proper treatment for such combs is the fire treatment, burning up entirely all the combs and frames. There is certainly no safer plan, even if somewhat expensive, and in the long run it may be the least expensive.

Bees Under the Snow, Etc.

1. Is it a good plan to leave the snow around the hives in the winter, and not open the entrance where the bees go in and out? or should the entrance be opened in a cold winter?

2. What is the best to put in the top of the boxes? M. W.

Sterling, Ills.

ANSWERS—1. Snow makes a good blanket to keep warm, so long as it is not warm enough for the snow to melt. So it is generally considered a good thing about a hive. But cases of injury from snow have been reported. If buried under several feet of snow, a hive may be kept so warm as to start breeding in winter, to the great detriment of the colony. But that is not likely to happen with an ordinary snow, unless through big drifts. Sometimes the snow melts at the entrance, then freezes up in such a way that the entrance is closed against the passage of air. Look out for that, and don't let the entrance get clogged.

2. That question is pretty generally

answered by deciding what is most convenient. Of course, some things are better than others, but it is not always the case that the best thing is enough better than the most convenient thing to pay for the difference of trouble in getting the best. Your question no doubt refers to the material to put in the hive over the bees for wintering. Among such materials are ground cork, wool, woolen rags or pieces of old carpet; chaff of different kinds, as timothy and oats, etc.

What Killed the Bees?

A neighbor of mine, in preparing his bees for winter a few days ago, found one of his best colonies out of 25, with bees all dead. Everything seemed to be in perfect condition, with plenty of honey, and brood in all stages. The bees were clustered in a cone shape, with the queen. There is no bee-man here that can give any reason for their being dead. Please call attention to this in the BEE JOURNAL—perhaps some of the numerous readers can explain the mystery. L. B.

Bridgeport, Conn.

ANSWER—We shall be glad to receive satisfactory explanation from any one. It is not easy in such a case to make a decision without actually seeing the case and knowing all the particulars. Nothing is said about the strength of the colony, nor as to the kind of bees present, whether workers or drones. Some very cold weather occurred before the date of the question (Nov. 28) and it would not be a very strange thing for a weak colony to succumb to the cold. It would have to be very weak, however.

Another possibility is that the queen was a drone-layer, and that a large number of the bees present were drones. These would not resist the cold so well as workers, and as it is understood that they are dependent upon the workers to prepare their food, it may well be that this work of preparing food would put the workers in poor condition to resist the cold.

But some entirely different cause for the calamity may have been present, and a look at the colony itself might readily give a clew to the answer.

One-Cent Postage Stamps we prefer whenever it is necessary to send stamps for fractions of a dollar. By remembering this, you will greatly oblige us.



No. 61.—Mrs. J. N. Heater.

Again we are afforded the pleasure of presenting to our readers one of apiculture's successful and prominent lady devotees, in the person of Mrs. J. N.



MRS. J. N. HEATER.

Heater, of Nebraska. For some time she has replied to queries for the BEE JOURNAL, hence the name is well-known to our readers.

We had the good fortune to meet her, as well as her husband, at the Chicago convention last October, and we found them to be very kind and genial—just like the rest of the bee-keepers in the State where they reside.

The *Nebraska Bee-Keeper*, some time ago, contained a picture and short biographical sketch of Mrs. Heater, a portion of which we have used in preparing this.

Mrs. Heater was born in Defiance county, Ohio, on March 5, 1855. Her father kept bees in the old way, in box-hives on a long bench, and when still a little child it was a very common occurrence to find her kneeling on the grass at one end of the bench, with her head resting on the same—sound asleep. To watch the bees at their work ever had a fascination for her, and in after years she eagerly sought whatever information she could gain concerning them. In fact, Mr. Heater says that his wife has never yet found anything in print relative to snakes, ants, spiders or bees, but what she has given it a careful reading.

We learn that one of the pleasantest memories she had to take home with her from her seven weeks' sojourn at the World's Fair, was the pleasure of meeting so many genial fellow bee-keepers. Mr. and Mrs. Heater have in view still another treat for this winter—that of visiting the Mid-Winter Fair, in San Francisco, and taking a tour through the States of Washington, Oregon and California.

Mrs. Heater's maiden name was Anna E. Case. She moved with her parents from their Ohio home to Niles, Mich. After several years spent on a farm near the latter place, the family moved to South Bend, Ind. Her life up to this time was passed much as is the life of any farmer's child, until she entered the high school in Mishawaka, Ind., and where she finished her career of instruction three years later.

She then took up the rod and cudgel, and assumed control in the school-room in one of the city schools of Mishawaka. Her health failing, she was obliged to resign and return to her home at South Bend, where, after regaining health, she entered her father's store as book-keeper. Preferring the school-room, however, she soon found herself again

engaged in this work, and taught several very successful schools in St. Joseph county, Ind.

In 1876 she joined her parents in St. Edwards, Nebr., where they had previously moved. Here she continued her chosen pursuit of school work for one year, when she was married on Sept. 18, 1877, to Mr. J. N. Heater. This worthy personage was, and still is, a member of "the grip-sack fraternity," managing the business of an eastern manufacturing establishment in the Southwestern States, and his entire time is spent on the road.

To one of so much ambition and former activity, the fact of merely living soon became extremely monotonous to Mrs. Heater, so in 1881 she purchased 7 colonies of bees, and made a practical study of them. The next spring 14 nuclei colonies were added, and success attended the venture from the very first. For the last ten years her "Eureka Apiary" has numbered from 125 to 150 colonies of carefully-bred Italian bees. Several years ago implements and supplies were added to the venture, and now she owns and conducts one of the most complete supply houses to be found in the West, in connection with her splendidly equipped apiary. She personally superintends every branch of the business, issues an annual catalogue and price-list, and ships bees, queens, honey and supplies to all parts of the West.

Mrs. Heater is an active member of the Nebraska Bee-Keepers' Association, and has many times been honored by this society, and is now an officer of the association.

Mr. and Mrs. Heater's home and apiary are located about five blocks from a railroad depot, and her apiary is always open to visitors, and especially to all bee-keepers.

As a writer, Mrs. Heater is well versed, and one article prepared by her once for a convention, was copied by papers in several of the States. But while Mrs. H. is willing and proud to

stand in line as one of the prominent bee-keepers of this country, she has no inclination to pose before the public. Nevertheless, we know that this short sketch of her active life will be read with much interest.

CONVENTION DIRECTORY.

Time and place of meeting.

1893.
Dec. 28, 29.—Kansas, at Ottawa, Kans.
J. R. Barnhard, Sec., Ottawa, Kans.
1894.
Jan. 2, 3.—Michigan State, at Flint, Mich.
W. Z. Hutchinson, Sec., Flint, Mich.
Jan. 23, 24.—Nebraska State, at York, Nebr.
L. D. Stilson, Sec., York, Nebr.
Jan. 24, 25.—Vermont, at Burlington, Vt.
H. W. Scott, Sec., Barre, Vt.

[3] In order to have this table complete, Secretaries are requested to forward full particulars of the time and the place of each future meeting.—THE EDITOR.

North American Bee-Keepers' Association

PRES.—Emerson T. Abbott....St. Joseph, Mo.
VICE-PRES.—O. L. Hershiser....Buffalo, N. Y.
SECRETARY—Frank Benton, Washington, D. C.
TREASURER—George W. York...Chicago, Ills.

National Bee-Keepers' Union.

PRESIDENT—Hon. R. L. Taylor..Lapeer, Mich.
GEN'L MANAGER—T. G. Newman, Chicago, Ill.
147 South Western Avenue.

"**A Modern Bee-Farm and Its Economic Management**," is the title of a splendid book on practical bee-culture, by Mr. S. Simmins, of England. It is 5 $\frac{1}{2}$ x 8 $\frac{1}{2}$ inches in size, and contains 270 pages, nicely illustrated, and bound in cloth. It shows "how bees may be cultivated as a means of livelihood; as a health-giving pursuit; and as a source of recreation to the busy man." It also illustrates how profits may be "made certain by growing crops yielding the most honey, having also other uses; and by judgment in breeding a good working strain of bees." Price, post-paid, from this office, \$1.00; or clubbed with the BEE JOURNAL for one year, for \$1.60.

"**The Honey-Bee: Its Natural History, Anatomy and Physiology**," is the title of the book written by Thos. Wm. Cowan, editor of the *British Bee Journal*. It is bound in cloth, beautifully illustrated, and very interesting. Price, \$1.00, post-paid; or we club it with the BEE JOURNAL one year for \$1.65. We have only four of these books left.



CONDUCTED BY

Mrs. Jennie Atchley,

BEEVILLE, TEXAS.

An Experience to be Explained, Etc.

MRS. ATCHLEY:—During the first days of August, 1893, I received an Italian queen which I introduced as follows: I took three combs of hatching brood from as many different hives, and put them into an empty hive. There was not an old or a live bee to be seen on the combs when placed in the hive. I let the queen and her attendants run down on the combs of hatching brood, and closed the hive entrance with a block of wood, so that no bees could pass in or out. I kept the hive in a room thus closed for 48 hours, when I opened to see the result, and lo, and behold! the queen was dead, together with all her attendants except one bee that was yet alive. Also all the hatched bees, 50 or 60, were dead, and lots of larvæ on the bottom of the hive. I tried to follow one of A. I. Root's plans of safe introducing, and the above is the result.

More yet: When I took up the three frames to carry them back to their respective hives from whence they came, I discovered crawling upon the top-bar of one frame a large bee about the size of a middle-sized queen. It seemed to be smeared with mashed brood; I supposed that I had done this in moving the hive a few feet, the swinging frames catching her, thus rubbing or grinding the larvæ to pieces. This large bee did not have queen-bands—it was the color of my bees. When I put the frame it was on into the hive, she crawled down among the bees without molestation.

Now, what killed the queen, the young bees, and pulled out the larvæ?

Another question: My hives are made of $\frac{3}{4}$ -inch lumber, $12\frac{1}{4}$ wide by $17\frac{1}{2}$ long, and $9\frac{1}{4}$ inches deep, inside measure. We will presume they have sufficient stores, and I have taken off all

supers, with just the top on without any absorbents, quilts, etc. The apiary is on the south side of a picket fence. Now need I do anything more for their comfort for a hard Southern winter? If so, please suggest whatever is best for my case, and many thanks will be due you.

R. A. WHITFIELD.

Westville, Miss.

Friend Whitfield, it will be very difficult to tell what killed your queen and bees. You may have smothered them, which is likely, as a closed room in August, and a closed hive in the room, cut off the air in such a manner that the queen and bees might have suffocated, which is more than likely. The large bee was a worker, no doubt, that was filled with honey, as a worker will try, it seems, to eat all the honey she can to keep from drowning, as it were, and her body will be very much distended, and favor a bee but little.

The larvæ had come out of their cells of their own accord, as larva, just before it is old enough to seal up, *must* be fed often, or it gets restless, and as hunger comes on, it will throw itself out of the cell and fall down to the bottom of the hive. So nothing pulled out the larvæ, and your queen, bees, etc., were killed by some unknown cause, so far as I know, as they would not have starved if they had honey, as I suppose they had plenty.

Now my plan is to take two or three frames of *sealed* brood, with as much hatching brood as I can get, and no unsealed larvæ, as it will surely die of starvation. Place in an empty hive, close the entrance with wire-cloth, put in a sponge saturated with water, close up the hive, and place in a warm, shady place, free from ants. When sufficient bees have hatched to form a nest and keep house (say in about four or five days), I put the hive out on a stand, give a fresh supply of water, and all is well. I introduced one fine imported queen in this way this year, and all was well—a perfect success. I fear the brood you used was too young.

To your second question I will say that your bees are in just about as good condition for winter as you will ever get them for your latitude. I have no fears but they will come out O. K., if they are strong in bees, and have plenty of stores. But I would investigate their condition occasionally during warm days in winter and spring, that they might be given help should they need it.

JENNIE ATCHLEY.



Packing Hives for Out-Door Wintering of Bees.

Query 902.—What is the most approved method of packing hives for out-of-door wintering, in order to prevent dampness, and secure the best conditions otherwise?—Provo.

I have not had experience.—R. L. TAYLOR.

The best I know of is Root's chaff-hive.—A. B. MASON.

Having had no experience, I don't know.—EUGENE SECOR.

I cannot speak from experience, but might try chaff or leaves.—C. C. MILLER.

I use chaff-hives with a 4-inch sawdust cushion over the frames.—G. M. DOOLITTLE.

We put straw mats on all our hives, and fill the top with dry leaves.—DADANT & SON.

I have given but little thought on wintering bees, as we have no cold weather here.—MRS. JENNIE ATCHLEY.

Absorbents over and directly around the brood-nest. Outside protection against cold, searching winds.—J. M. HAMBAUGH.

Keep the entrance wide open always, and fill the surplus chamber with some substance that retains the heat of the hive.—M. MAHIN.

A double-walled chaff-hive is now desirable. Such an one as Mr. Manum, or Mr. M. H. Hunt, or Mr. Geo. E. Hilton uses, is surely best.—J. H. LARABEE.

In my latitude, hives need no special packing for out-door wintering. All that is necessary, is to keep the tops of the frames covered with a quilt, with a bee-space under it.—J. P. H. BROWN.

We winter all of our bees out-of-doors. We use a quadruple hive, lined inside with half-inch boards, $1\frac{1}{2}$ inch space between the outside of the hive and the inside lining; space filled in with chaff; sealed covers, and 6 inches of straw over the bees.—E. FRANCE.

I think a number of dead-air spaces are the best. A good chaff-packed hive is all right. A thin outside packing-case is much better than a thick one, to prevent dampness.—H. D. CUTTING.

It would require a long article to give my ideas on this subject. I explained my methods fully in the AMERICAN BEE JOURNAL of last fall and winter, and I have not changed my belief since then.—JAMES A. GREEN.

I have had the best results in wintering bees out-of-doors by packing in chaff-packing on all sides, top and bottom, except two or three inches at the bottom of the front, and ventilating only at the bottom.—S. I. FREEBORN.

Make a frame of $\frac{1}{2}$ -in. stuff, 4 or 5 in. wide, to fit over the lower hive inside the cap; tack a piece of coarse sacking, like coffee-sacking, over the bottom of the frame, thus making a box with straw chaff, or dry leaves.—MRS. L. HARRISON.

Theory, practice, and possibly economy, urge that we approximate four, six or eight hives until all are close together, and then enclose and pack all in one mass. I would use wooden covers, and pack well below and above, as well as on the sides.—A. J. COOK.

I do not know. Packing is generally that much time wasted. You cannot keep bees warm by packing a little straw or chaff around them. Bees do not freeze. They starve because they do not have plenty of food in the right place—above the cluster.—EMERSON T. ABBOTT.

Provide an outer box, and pack all around, under the bottom, and over the frames with chaff, dry leaves, or sawdust. Be sure to put on a good roof, to keep out rain and snow. Of course an entrance for the bees should be left, but it need not be very large; also a hole in the outer box for dampness to escape.—C. H. DIBBERN.

I am situated too far south to know a great deal by experience about "packing" hives to winter bees. In my locality all "packing" at the sides of the hive is a disadvantage. The warm sun, on clear, sunshiny days, is a greater advantage to my bees than side protection is on the cold, cloudy days. No doubt it is different further north.—G. W. DEMAREE.

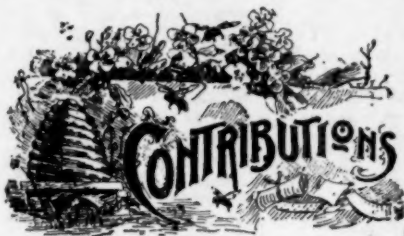
Pack in chaff hives on the summer stands with at least two inches of chaff in the sides, ends and bottoms. Spread a new cloth of duck, or something of the kind, over the top of the frames, but

first lay three or four corncobs or sticks across the frames to hold the cloth up, and give the bees a passageway over the frames. On top of the cloth put about four inches of dry chaff, and cover tight. Close the entrance to from two to four inches, according to the strength of the colony.—MRS. J. N. HEATER.

Give full width of entrance. Allow one inch space over the top of the frames. Fill above that with 5 or 6 inches of forest leaves, pressed loosely down; the idea being to allow moisture to pass off through the top of the hive imperceptibly, with ventilation through entrance. The so-called "Hill's device" is as good a means as any to give space above the tops of the frames. Its equivalent in any form may be used with equal advantage.—J. E. POND.

Chaff is probably the most popular packing. I prefer something porous above, over corncobs or a "Hill's device," and then a couple quarter-inch ventilating holes in the cover. The chaff can be used in sacks, or without. Take out useless combs, insert division-boards, and pour in the chaff. Leaves, when dry, are also good. Paper is a good, warm material. Many build an outside case, and fill in all around; this is undoubtedly better still. Have some kind of protection on the windward side.—WILL M. BARNUM.

My way of packing hives of bees that has been successful for nine years, is as follows: I use a thin outer case (which has a bottom and a cover) for a thin, single-walled, storifying hive that may be used the year around in the case, or taken out at any time and used as a single hive. The case is 3 inches larger all around than the hive, and there is left a space of 6 inches between the brood-frames and the cover. To pack this case I have used dry forest leaves, dry planer shavings, white poplar excelsior; wheat, oat, and clover chaff, and dry sawdust. After all these years I find the first three to be the best in the order named, although either one makes a reliable packing that may be saved each spring and used from year to year. The poorest of all is dry sawdust—it is in fact worse than no packing, as it takes up the dampness and holds it. It should be borne in mind that the thin outer case is a good protection in itself, and, with a warm cushion over the frames, will winter quite well with scarcely any dampness of the inside hive or outer case. But the bees consume far less stores and winter best with good packing.—G. L. TINKER.



How I Became a Bee-Keeper.

Written for the American Bee Journal

BY G. M. DOOLITTLE.

When I was quite a small boy, father took a colony of bees of a neighbor living about a mile distant, to keep on shares, each to have half of the surplus honey and half of the increase. In those days section-boxes were unknown, and the honey was obtained by "brimstoning" the bees. Thus, when fall came, the neighbor and my father would look over the bees and decide how many and which colonies should be killed, after which the honey obtained was divided equally between them. If more was obtained than was needed in the family, it was taken to town and exchanged for groceries, boots, etc., the best and whitest always being taken for this purpose.

I well remember the pails of beautiful, snow-white combs carried to town, which was obtained from second and third swarms, thought to be too light to winter, while all the darker combs and those filled with bee-bread, were left at home for our consumption, to be used in the shape of "strained honey." As perhaps many of the readers of the BEE JOURNAL do not know how honey was strained in olden times, I will tell how mother did it, for this part of the work was always allotted to her:

The combs were chopped up till every cell was broken, and then put into a bag made of thin cotton-cloth. This bag was then hung close to the fire, and allowed to drain all it would into a vessel placed underneath. The quality of honey so gotten out was pretty nearly equal to our extracted honey, if no dark or inferior honey was in the combs. After all had drained out that would do so by hanging by the fire, a large pan was placed in the oven, and several long sticks placed across the top, when the bag was placed on the sticks; the oven was then kept as warm as possible and

not melt the wax very much, and in this way quite a quantity of rather inferior honey was obtained, although it was perfectly wholesome, and as clean as any extracted honey.

The idea has been advanced, and gone into print, where a comparison of extracted and strained honey has been made, that the former is the clear nectar of flowers, free from all impurities, etc., while the latter is a mixture of filth and honey, obtained by mashing dead bees, and bee-bread, together with what brood there might happen to be in the combs, till all was fine, and squeezing the whole through a cloth. This has been done to prejudice people in favor of extracted honey; but I do not consider such things honorable, from what I know of straining honey, for from all the knowledge I have, I would as soon risk the cleanliness of strained honey as that of extracted; for at our house, nothing looking like dead bees, brood, or filth, was ever allowed in the sack from which the honey was strained, while I have seen hundreds of disgusting-looking larvæ floating on a vessel of honey where extracting was being done from the brood-chamber of the hive. But enough of this.

After a few years, the bees from the first colony above referred to, had so increased that a division was made, and the neighbor took away what belonged to him. I was now large enough so I could watch the bees, and during the months of June and July, whenever I was not at school, I was stationed near the apiary from ten o'clock till three, to look after swarms. I often became tired of being thus confined, but as father thought that all should bear an equal share of the burden of supporting the family, I was kept at my post, instead of being allowed to roam the streets and fields with other boys.

About this time, father concluded to try to get his surplus honey by placing large boxes, holding 15 to 20 pounds, on the hives. These were placed on top of the hive, or at the side, as he thought best. On one occasion he hived two swarms (which clustered together) in one hive, placing one 20-pound box on top, and two 15-pound boxes one at each side. To place them at the side, the hive was raised on half-inch blocks, and a slot was cut in the bottom of the boxes, $\frac{1}{2}$ x 8 inches, and these slotted sides placed next to the hive. The result was, that he took four 15-pound boxes at the sides, and one 20-pound box from the top, making 80 pounds in all.

After this he "boxed" the most of the hives at the sides, and I suppose it was from this that I got the idea of side and top boxes combined, by the use of wide frames, as I used them for many years when I first began bee-keeping.

About this time, one morning when father was about leaving home, a small second-swarm came out, and as he was in a hurry he said he would give it to me if I would hive it. Heretofore I had never hived a swarm, and it took some little courage for an eight-year-old boy to climb to the top of a tree to get a swarm of bees for the first time—so I thought, at least.

I hived them, and thought so much of them that scarcely a day passed but what I went to see them work, and when fall arrived with cool nights, I used to tap on the hive for the "Good Morning" answer, which was always sure to come. I went one morning, tapped on the hive as usual, but no response, the reason for which I soon found by seeing the inside of the hive empty upon tipping it up, while the edges were charred, showing how the bees had been killed with fire and smoke. About this time that dreaded disease, foul brood, broke out in the apiary, and in two years no bees were left.

My bee-keeping now came to an end till I was 23 years old, yet during these years I was always thinking more or less about the bees, and trying to persuade father to get more bees.

In the spring of 1869 I bought two colonies, from which sprang my present apiary. At this time I subscribed for the AMERICAN BEE JOURNAL, read Langstroth's and Quinby's books on bees, and contracted such a bee-fever that I never became rid of it even to the present time. While all else has seemed like work to me, yet every moment spent in the beeyard is always play, and after 24 years of this kind of play, I must say that to me the bee-business is still the most fascinating of anything in life.

Borodino, N. Y.

Correct Space Around Top-Bars to Prevent Brace and Burr Combs.

Written for the American Bee Journal
BY O. G. RISLÖW.

In *Gleanings* for Oct. 1st there was an article written by Dr. Miller, which interested me more than any, as it was about what space would be the most correct between the top-bars; and in

the BEE JOURNAL also this question was asked recently: "What space between the top-bars gives the best results to avoid brace-combs?" I will try to answer, as far as my experience goes.

My experience agrees with that of Dr. Miller. When I first began keeping bees, I made the hives by hand, and as I had no sample hive, I made them according to the description in the "A B C of Bee-Culture," with only 1 inch wide top-bars, and $\frac{3}{8}$ of an inch thick. After using them one year they were full of brace-combs, and I began studying whether the frames could not be made so that the bees would not build any brace-combs between them, and I noticed that if there was just $\frac{1}{4}$ of an inch space between the top-bars and cover, there were no burr-combs. The idea suggested itself, if there was only $\frac{1}{4}$ inch space between the top-bars, and they were $\frac{3}{8}$ inch thick, would they build brace-combs then?

I made one hive as accurately as I could. I made the top-bars $1\frac{1}{4}$ inches wide and $\frac{3}{8}$ -inch thick, thereby making it only $\frac{1}{4}$ -inch space between the top-bars when when placed $1\frac{3}{8}$ inches from center to center, and only $\frac{1}{4}$ inch space between the frames and cover.

I hived a swarm in this hive, and waited for the results. After the bees had built their combs, I opened the hive and the frames were perfectly clean from burr and brace combs, and they are so to-day, after several years' use.

To test my frames more thoroughly, I took some frames with triangular top-bars, and as these are only 1 inch wide there would be a $\frac{3}{8}$ -inch space between the frames. I put them in the center of a hive, with the other frames in, and after a week's use they were full of brace-combs, and the others were perfectly free from them.

I have noticed that if the top-bars sag or bend, either from poor or not straight grained wood, they build burr and brace combs on them. But there is a difference in colonies in building brace-combs, just as there is in propolizing.

□ Since I began making hives by power, I make the top-bars $1\frac{1}{4}$ inches wide by $\frac{3}{8}$ -inch thick. I don't use any comb-guide, but always use either a starter or full sheet of foundation.

In regard to the projections or forks of the Hoffman frame end-bars, they will be very narrow, but by not making the V edge, they are a little stronger. I considered the V edge worse than the square, as far as I can see.

The honey crop in this locality was

poor. I got an average of 43 pounds of comb honey per colony, mostly all dark. White clover was a total failure, although there was an abundance of it. Linden yielded well for three days, but stopped suddenly. Bees are in a fine condition for winter.

Lake Mills, Iowa, Nov. 15, 1893.

Theories Regarding the Origin of Foul Brood Examined.

Written for the American Bee Journal

BY S. CORNEIL.

I have been watching with interest for some one to show that, what Mr. McEvoy terms his "Strong chain of evidence which no man on earth can dispute," published in the AMERICAN BEE JOURNAL for May 11, 1893, does not contain a particle of evidence in support of his theory as to the origin of foul brood. Now that Mr. Simmins has undertaken to confirm some of Mr. McEvoy's erroneous theories, and has added others of his own, I think the matter should no longer remain unnoticed.

It will be recollected that Mr. McEvoy's theory of the origin of foul brood is that cells, in which larvæ have died from some other cause, are not thoroughly cleaned out by the bees. While in this foul state Mr. M. claims that the queen lays eggs in them, and that when the eggs hatch, the young larvæ are obliged to consume the decomposed remains of the former occupants, with the liquid food furnished by the nurses. Mr. McEvoy claims as his discovery, that this rotten matter, when taken by the larvæ with their food, is the "whole, sole, real, true, and only cause of foul brood."

There are several objections to this theory. We know the microbe which produces the brown, ropy matter, found in foul-brood cells, and we know the microbe which causes the putrefaction of brood, dead from other causes; those who have studied the matter most thoroughly, agree in saying that the latter microbe is never transformed into the former. A prominent bacteriologist says: "Only those absolutely ignorant on the question have ever argued that the one organism can be transmuted into the other." This objection is, of itself, insuperable.

Again, if Mr. McEvoy's alleged fact, that cells containing remains of rotten larvæ are used by the queen is true,

these remains must be visible to the unaided eye, because Mr. McEvoy does not use the microscope; that in his opinion would be science, and therefore something to be avoided. My own observations, confirmed, I believe, by the observations of thousands of other bee-keepers, show, that so far as can be seen by the naked eye, cells are not used by the queen until they have been thoroughly cleaned and polished by the workers. I don't believe Mr. McEvoy, or any one else, ever saw cells occupied with eggs, while they were still partially filled with decomposed brood.

But in support of this theory, Mr. McEvoy claims to have produced a strong chain of evidence which "any judge on the bench would accept, and charge the jury to believe." This "chain of evidence" consists of seven cases in which dead brood was followed by foul brood. Of these he says the case of Mr. C. J. Robinson, described on page 726 of the *AMERICAN BEE JOURNAL* for 1890, and in the *Bee-Keepers' Exchange* for August, 1882, "is a real test case." The circumstances, in short, are these:

Three combs, containing unsealed larvæ, were unintentionally exposed in Mr. Robinson's yard, until the brood died. When found they were wrapped in an old blanket, and placed on the south side of a building for warmth, where they remained for two months, the blanket being sprinkled with water from time to time to keep the combs moist. At the end of this time, some matter from the decomposed larvæ in these combs was smeared over unsealed larvæ in a comb just taken from a healthy colony. This comb was then enclosed in a wire-cloth cage, and returned to the hive, the result being that foul brood was developed.

Now it seems to have escaped Mr. McEvoy's notice that when Mr. Robinson found these three combs, he says the decomposition in the larvæ was that of foul brood. When the foul brood matter was placed on living larvæ in the caged comb, the disease was propagated as a matter of course. Lest any one should have doubts as to what Mr. Robinson believed he saw, I give his directions for producing foul brood at will, based on the above experiment, and published in the *Kansas Bee-Keeper* for October, 1882, as follows:

"Remove three frames or cards of brood, in the different stages, from the brood-nest. Let the combs face together, and keep them in a moist, warm atmosphere, such as favors fermentative

putrefaction, and in due time the putrid mass will be true foul brood."

Such, then, is the "real test case" for which Mr. McEvoy thanked Mr. Robinson, in writing, for "the best article on foul brood ever written." Instead of supporting his theory, it proves that bacillus alvei may thrive in dead brood outside of the hive, where there are no living grubs to eat the remains of decomposed larvæ. If the accuracy of Mr. Robinson's observations is questioned, there are equally strong grounds for believing that he mistook brood which died of starvation in the caged comb, as evidence of foul brood. No matter which view is adopted, Mr. McEvoy's theory gains no support from Mr. Robinson's case.

It is possible Mr. Robinson may have had true foul brood in those three combs. The dead brood furnished the kind of nutriment required, and the requisite heat and moisture were present. The only other essential factor is the germ. That the germs of foul brood do float in the air, like motes in a sunbeam, has been proven experimentally by Schonfeld. Being exceeding light, they may be carried by winds from one locality to another, many miles distant, just as other seeds are distributed. Although it is said there are places where the air is so free from germs that carcasses do not putrefy, it is true, as a general rule, that putrefactive germs are present everywhere. It is just as well for us that the disease-producing germs are not so plentiful. Sometimes they are present, and at other times they are not. Although Mr. Robinson believes he can produce foul brood at will, he might try several times and fail, as did Mr. D. A. Jones, for want of germs.

Keen observers who have had experience, or who have learned from the experience of others, can discriminate between the decomposition produced in a larva by bacillus alvei, and that produced by bacterium termo. Whether Mr. Robinson can do so or not, I have no means of knowing. It is a pity Mr. Robinson did not send some of the matter from those three combs to a bacteriologist to have the microbe identified for the benefit of those engaged in the industry.

The remaining six cases in Mr. McEvoy's "chain," where dead brood in the hive was followed by foul brood, are, every one, reasonably accounted for in the same way as Mr. Robinson's. There were present the moist dead brood, and sufficient heat for the growth of the

germs carried into the hive in the air, or perhaps in the water in the cases of drowned brood. On this theory the fact that chilled brood is sometimes followed by foul brood, and at other times not, is readily understood. The foul brood germs may be plentiful in the neighborhood, or there may be few, or none. For this reason, Mrs. Jennie Atchley's hives escaped the disease, although they contained abundance of drowned brood.

In the quotation from Rev. Mr. Gruetzer's letter to Mr. McEvoy, it is said that, "In Germany the opinion is universal that deceased brood is the cause of foul brood." It is probable that by this is meant that dead brood forms a nidus for the growth of the germs entering the hive from without, and in this way it becomes a factor in causing foul brood. If it is intended to convey the idea that in Germany the opinion is universal that the queens lay eggs in cells partly filled with decomposing larvae, and that the grubs hatched from these eggs eat this rotten matter, which then becomes metamorphosed into bacillus alvei, the statement is a libel on the intelligence of German bee-keepers. There are too many eminent bacteriologists in Germany for such an absurd theory ever to become universal.

Lindsay, Ont.

(Concluded next week.)

Bee-Keeping and Poultry as an Occupation for Women.

Written for the "Woman's Congress of Texas"

BY MRS. S. E. SHERMAN.

In giving a glance backward over the past 20 years of my life, nothing strikes me more forcibly than the wonderful change made in the world's opinion of labor for our sex, and in the opportunities and openings for women who do not wish to be idlers in life, and for those who must be bread-winners.

Twenty years ago women crept tremblingly along in one or two occupations—teaching and sewing. Now she stands out proudly surveying the many fields of different labor lying at her feet, and only seeks to select the one to which her strength, tastes and finances naturally lead. From the higher professions, and those requiring long mental effort and training, many a woman may still be debarred from lack of health and strength to bear the confinement of study, and with only small capital may wish an occupation still intellectual and

refined, yet having the rigor of out-door life, and the demand for little capital in its beginning. To such I come with a plea in favor of a pursuit which has brought me health and strength, has given me golden opportunities for study of the beautiful and useful in nature, and has also had a very satisfactory effect upon the size of my purse.

If there is one person in all this broad land of ours who has a right to be an enthusiast on the subject of bee-culture I certainly am pre-eminently that person. A poor dyspeptic, who for years could not eat anything that had a drop of grease in it, or drink even a spoonful of that delicious beverage—coffee—without the most dire results following such imprudence; I can now eat almost anything with impunity, which change has all been brought about by active out-door exercise, working with the ever busy little bee. Haven't I a cause, then, to be an enthusiast, think you, upon this subject?

One great advantage in this occupation is, it can be carried on right at home, in our very door-yards. Another is, it takes but little capital to begin with—less than, perhaps, almost anything else, in which a woman could embark.

In 1888 my bees gave me a ton of honey gathered from the tiny flowers of the hoar-hound alone, and two tons from other flowers, making in all 6,000 pounds of honey, 100 pounds of beeswax, and 33 per cent. increase, bringing the number of colonies up to 60; since which time I have made no increase, as that is as many as I can well manage with other work. Remember, this was the outcome of one colony of bees in the spring of 1880!

Gathering the honey is gleaming that which is going to waste, and would otherwise be a complete loss. Did you ever think of how many things are going to waste, which a hand careful of minor details could garner in and make profitable?

In the beginning of my work there were plenty of persons, as there always are, ready to discourage me, and I was often told I could not find a market for my honey. This was all a mistake, for I have not been able to supply the demand. The largest order I ever received was for 1,030 pounds, and I am satisfied that is the largest amount that ever has left our county (Bell) in one shipment. I have made this statement before, and will repeat it, that I believe if all the honey that is secreted by the flowers in our "Lone Star" State could

be gathered by the bees, there would be honey enough for every person in the State to have all they could eat, three times a day, every day in the year. What a great blessing this would be for many a poor child who never gets a taste of that God-given sweet in a lifetime.

If we cannot scale the mountain tops, we can go into the humble walks of life and be gleaners in the valleys, study the wants and necessities of our bees, and have them in a condition to save that which would otherwise go to waste. With the aid of my bees I have saved many tons of honey that otherwise would have evaporated and been lost.

To the refined woman, whose nature revolts against any occupation which brings with it no outlet for busy thought and keen relish for the beautiful, bee-culture offers a pleasant, elevating opportunity for study as well as pecuniary return. It brings us in close contact with Nature and Nature's God. There are new beauties all the time coming to view. Even the despised weeds take on a new form of beauty, never before dreamed of. Take, for instance, the hoar-hound—one of the bees' great food providers, but which is ordinarily looked upon as a great nuisance. Put this insignificant-looking little flower under a microscope, and look at the wonderful beauty of God's handiwork. You will doubtless feel ashamed that you ever regarded it as a nuisance. When you also know of the innumerable millions of bees it supplies with honey and pollen, upon which the bees feed their young, and that the tons of honey it yields supplies abundance of this delicious sweet for the use of man (woman is included), our contempt for this common weed is changed to admiration. These are the beautiful lessons I learn daily from my little bees.

The study of bee-culture is almost limitless. There is all the time something more to be learned. By the use of an observatory hive everything that is done inside a large hive can be seen, and much learned in this way. I would advise every one who keeps bees either for pleasure or profit, to have an observatory hive. It is like an index to a book, and about as indispensable to a successful apiarist. I keep mine on my gallery, and can tell whether honey is coming in either freely or scantily, without having to open a large hive.

Poultry-keeping combines very nicely with bees, as most of the work comes on at different seasons of the year. After

the bees are snugged away nicely for the winter, there is no more work with them until spring, and not much very early in that season, and at this time the chicks should be hatched for the most successful rearing. I began the fine or fancy poultry business at the same time I commenced with my bees, and have kept them right along together, and find little conflict between the occupations. I have raised from 75 to 250 chickens per annum. Of course all are not show-birds. The culls find a ready market upon my own table, for we do like nice fried chicken, and almost always have plenty of it at all seasons of the year. Nice, fresh eggs—we wouldn't know how to get along without them, either.

I have five varieties of chickens—Houdan, White Houdan (which originated in my yard), White Crested Black Polish, Silver Spangled Hamburg, Black Langshan and Houdan. I also have a few crosses between the Langshan and Silver Spangled Hamburg and Langshan. These are very fine, hardy, thrifty birds, and would be a fine cross for those who do not care to keep the pure breeds.

Dampness is the greatest enemy that I have found. This can be prevented by having dry quarters for them, both old and young. Keep their houses cleaned at least twice a week—every day is better. Keep constantly a supply of clean, fresh water for them; give them plenty of wholesome food with an abundance of green stuff; make good nests for them, and they will surely shell out the eggs—pure fresh ones—not such as you usually get from your grocer.

I believe in chickens, and intend to have them as long as I have ten square feet of land upon which to keep them. They pay me well as a financial investment, besides adding luxuries to my own bill of fare.

If in this limited review of these two occupations so well adapted to home-life and the retirement so dear to many women occupations, which have given me so much pleasure as well as good, hard-earned profit, I should happen to assist any dependent woman to helpful thoughts for self-support, I shall feel more than repaid for this little effort in presenting Bees and Poultry as a womanly and profitable home-business.

Bell County, Texas.

[The foregoing interesting essay Mrs. Sherman had with her at the North American convention last October, thinking to read it there if it was de-

sired; but owing to a lack of time it was not reached, but it will appear in the pamphlet Report just the same as if read at the convention.—ED.]

Presidio and Foley Counties, Texas, Described.

Written for the American Bee Journal
BY C. G. ATEN.

To avoid taking up space with unnecessary explanations, I will begin at once to describe Presidio and Foley counties, Tex., beginning with Presidio; suffice to say that my knowledge of this country was obtained by riding over this rough and barren desert as a member of Company "D," Texas Rangers. I was stationed in this section of country from April 3rd to Sept. 1st, 1890.

Presidio county was organized in 1875. Geographically the county consists of high ridges, for the most part rocky, and gradually rising into mountains. Don't picture in your mind mountains that are covered with green timber, and valleys that are washed with clear, cold streams of water, but, instead, picture the very opposite—mountains that are barren save here and there the soto plant and tufts of the coarse gamma-grass, with great boulders of reddish brown sand-stone projecting from their sides. Picture in your mind a desert, almost, of mountains and hills, for the most part barren, with now and then a level plain, perhaps thousands of acres in extent.

There are very few streams of water in the valleys, more generally dry gravel beds over which water runs after one of those quick cloud-bursts common in that country in June and July. I have heard an old resident of the county say that he had never witnessed a general rain over the county, that is, a rain that extended over all of the county at one time. In the rainy season clouds will form in a few moments, as if by magic, rain a heavy shower, and disappear to form again may be 50 miles away.

The greater part of the county's population is Mexican, and they are Mexicans of the meanest type. Marfa is the county-seat, with about 800 population. The elevation at Marfa is about 4,000 feet above sea-level. The elevation falls from Marfa—which is in the northern part of the county—to Presidio, on the Rio Grande, and in the southern part of

the county, 1,700 feet, while the distance is about 70 miles. This makes a great difference in the climate. In August and September the sand storms will almost suffocate one at Presidio, while at Marfa the wind approaching near a hurricane without a cloud in sight will chill you to the bone. They have no warm and sultry nights at Marfa.

While the Rio Grande valley has entirely a different climate, the valley winds are hot and dry, as though they came out of an oven, while a few miles up on the mountain sides, or on the plains at Marfa, the wind is cool and bracing.

At the time that I was in the county, there were but eight men living in it on the Rio Grande, and I believe that a white woman was never seen in this section. Four of these men have married Mexican women. If the true history of some of these men that have exiled themselves, and almost turned against their race, were known, I have no doubt but that it would be interesting to some.

Shafter is a silver mining town with about 700 inhabitants, mostly Mexicans, and like the people of Presidio, they live in adobe (sun-dried brick) and grass houses. These adobe houses are often built very substantially, and when plastered inside and out they look very much like a rock-house, and last about as long.

The Presidio Mining Co. have a ten stamp mill at Shafter, and ship about \$35,000 worth of bullion a month. The town is in what is known as the Chanetti mountains, 50 miles south of Marfa, and 22 miles north of Presidio. In the Chanetti mountains there is a scattering and stunted growth of live-oak timber.

The valley of the Rio Grande, at Presidio, is about 8 miles wide. The Mexicans along here raise some corn, beans, and melons—enough to keep them alive, that is all. All farming is done by irrigation in this country, and it is often managed in a curious way. I believe that parts of this valley could be made to produce fruit as well as the same valley at El Paso, only about 125 miles up the river, and on which as good fruit is grown as in California.

Now in regard to bees in Presidio county, and I have finished. There is but one part that I would think of trying apiculture, and that is the Rio Grande valley. The winds on the plains are too severe for bees, but, as I have said, the valley of the Rio Grande has an entirely different climate. Near the river there is a dense growth of mesquite, while

back from the river, in the foot-hills, there is a dense growth of shrub bushes, such as the julesh, jhagle, and catclaw; also many other semi-tropical plants and thorn bushes. Don't understand me to say that this valley is eight miles wide all along; on the contrary, the mountains almost crowd the river out of existence in places.

In all my travels over this country I can remember of seeing but one colony of bees, and that was in the custom-house yard at Presidio. The hive was a large dry-goods box with one side knocked out for an entrance, though the bees were partly protected by a piece of of blanket flapping loosely over this side. I often raised this blanket and looked in at the bees, but they never offered to sting.

These bees belonged to an old Mexican, and at the time he robbed them, I was scouting in the Chiclos mountains. Some of the boys that remained at the custom-house said that he took a tub-full of honey from them, but I think the boys exaggerated, as "Rangers" often do in matters of little importance. Anyway, a couple of weeks later I cut out about eight pounds of as fine white honey as I ever saw. It was, I think, mostly gathered from mesquite.

Statistics for 1888 and 1889 show that there were in Presidio county 61 colonies of bees; amount of honey gathered, 1,050 pounds; value, \$235.

Foley county is very much like Presidio, with the exception that it is an organized county, and attached judicially to Brewster county. It is more mountainous, and more sparsely settled than Presidio.

I haven't written this article to discourage any one, neither have I tried to exaggerate for or against, but as honestly and plainly as it is possible for me to do, I have pictured the county. I wouldn't advise any one to go there, especially to the river section, unless he is a lover of adventure. It would also be a pious idea for you to take your gizzard along with you—one such as "Rambler" of *Gleanings* fame must certainly possess; for you will not only have rattlesnakes, centipedes, tarantulas, vinegarons and "stink-cats," to deal with, but many of the most cowardly, cruel cut-throat Mexican outlaws. It is not necessary for further explanation, you understand what I mean. I have yet to see the man that has been bitten by any one of the three poisonous insects, though the country is swarming with them; but, on the other hand, I can

show you many graves, besides the three graves of my comrades (one of which was my captain), whose occupants died by the hand of the cowardly Mexican assassin in that country.

Round Rock, Texas.

Convention Notices.

KANSAS.—The Kansas State Bee-Keepers' Association will meet at Ottawa, Kans., on Dec. 28th and 29th, 1893. Free entertainment to all members in attendance. Come and get acquainted. J. R. BARNHARD, Sec. Ottawa, Kans.

VERMONT.—The 19th Annual Convention of the Vermont Bee-Keepers' Association will be held in Burlington, Vt., on Jan 24 and 25, 1894. Programmes later. All interested in apiculture are invited to be present. Whether you live in Vermont or outside, come to the Burlington meeting. H. W. SCOTT, Sec. Barre, Vt.

NEBRASKA.—The winter meeting of the Nebraska State Bee-Keepers' Association will be held at York, Nebr., on Tuesday and Wednesday, Jan. 23 and 24, 1894. Interesting essays will be prepared by those competent to interest. For particulars, address the Secretary. L. D. STILSON, Sec. York, Nebr.

MICHIGAN.—The Michigan State Bee-Keepers' Association will hold its annual convention, in the Common Council Chamber, in the City Hall Building, in Flint, on Jan. 2 and 3, 1894. This will be at a time when reduced rates may be secured. Head-quarters for the bee-keepers will be at the Dayton Hotel, where rates are reduced from \$1.50 to \$1.00 per day. It is a most desirable place to stop—neat, clean, good table and good beds, and a temperance house.

Flint, Mich.

W. Z. HUTCHINSON, Sec.

Have You Tried to get a new subscriber for the BEE JOURNAL this fall? We offer to throw in the balance of this year free to new subscribers for 1894, besides their choice of one of the books offered to them on page 773 of this JOURNAL. Then we also give a premium to a present subscriber who will send in new ones. It seems to us that our liberal offers this fall ought induce every one of our readers to aid in doubling the circulation of the BEE JOURNAL within six months. Why not help do this, and then see what a grand journal we can furnish to everybody when once the increased number of readers is secured? If each present reader would send only one new subscriber besides his or her own renewal before Jan. 1st, the thing would be done. Will you do it, reader?

See Our New Premium List on page 773, and then decide to get some of the premiums offered for securing new subscribers for the BEE JOURNAL. We want every one of our present subscribers to help us increase the number of our regular readers. Will you see what you can do toward it?

RANDOM STINGS

FROM THE STINGER.

The paragrapher of the *Progressive Bee-Keeper* has asked why we did not use "Stray Strings" instead of "Stray Stings," as I might then use them to bind the "Straws" with. One reason why I did not use "strings" is because neither the AMERICAN BEE JOURNAL nor myself are in the supply business.

What sort of an ear must S. E. Miller, of the *Progressive* have when he seems to think that "Stray Stings" sounds a little like "Stray Straws?" I never heard a donkey try to sound the two headings mentioned, but I should judge that if that much-abused beast were to make the effort, he would not succeed in finding much difference between the two.

But ye *Progressive* paragrapher, we found another reason for not using anything that had "stray" about it—we might be thought to be like that (a)stray donkey that is trying to do the funny act for one of the bee-papers.

This seems rough on the Missouri bee-keepers! The paragrapher of the *Progressive Bee-Keeper* asks, "Has not Missouri enough of bee-keepers with cheek enough to assert their rights?" I never thought that a bee-keeper had to push his way to secure what he really wanted by having to have "cheek." The bee-keepers I have had to do with were all nice people—modest to a fault, but, nevertheless, they managed to "get there" every time, while some pompous individuals who had a profundity of gall and cheek, went to the wall.

As it seems that some of the Missouri bee-keepers are a little deficient in that requisite mentioned by friend Miller, I would suggest that he start a School of Monumental Cheek, and offer inducements to the Missouri bee-keepers to come and take lessons from him, that they might make that State the Mecca of apiarists who wish to become cheeky.

Somnambulist asks, in the November issue of the *Progressive Bee-Keeper*, "Is it any wonder I feel too full for utterance?" I really do not know, my friend; it might altogether depend upon how greatly infatuated you were with those blonde damsels I saw dispensing beer and that sort of stuff in Old Vienna and the German gardens. I do not know your capacity for the malt liquid, you see. Oh, by the way, did you try the pretzels in one of those gardens or corners, Somnambulist? Bro. Root says pretzels are fine.

Truly, you were an object of pity Somnambulist, and I wonder that you are still at large.

I did not see any of "the pretty little guides in their imitation West Point uniform." I saw the real guides of the Fair, but they did not look anything like the West Pointers. I have seen the latter on their "native heath," and there is a deal of difference between the uniform of a Columbian guide and that of the boys who are serving a term on Uncle Sam's farm on the Hudson.

Now, I guess, that while the Somnambulist was half awake and half asleep on the Fair Grounds, he mistook one of the aforesaid cadets (who, with his comrades, was spending his vacation on the Fair premises) for one of the guides. Strange things are sometimes conjured up in the minds of a dreamer.

I notice that one of our queen-breeders has been sending some of his Italian queens over to Ireland. I was of the opinion that the Irish people did not want any more queens or other royal personages fooling around their Green Isle of the Sea. Nothing gives an Irishman greater pleasure than to go before one of our American courts, and become a citizen of this great country, as it gives him an opportunity to swear off allegiance to the Queen of Great Britain and Ireland, and Empress of India.

LANGSTROTH FUND.

[For years, bee-keepers have felt that they owed the Rev. L. L. Langstroth—the Father of American bee-culture—a debt that they can never very well pay, for his invention of the Movable-Frame Hive which so completely revolutionized bee-keeping throughout all the world. In order that his few remaining years may be made as happy and as comfortable as possible, we feel that we should undertake a plan by which those bee-keepers who consider it a privilege as well as a duty, might have an opportunity to contribute something toward a fund that should be gathered and forwarded to Father Langstroth as a slight token of their appreciation, and regard felt for him by bee-keepers everywhere. No amount above \$1.00 is expected from any person at one time—but any sum, however large or small, we will of course receive and turn over to Father L. All receipts will be acknowledged here.—Ed.]

List of Contributors.

Previously Reported.....	\$75 70
Chas. F. Jaessing, Maumee, O.....	1 00
W. R. Mundhenke, Wheeling, Ill.....	1 00
Total.....	\$77 70

Please Send Us the Names of your neighbors who keep bees, and we will send them sample copies of the BEE JOURNAL. Then please call upon them and get them to subscribe with you, and secure some of the premiums we offer.



Do not write anything for publication on the same sheet of paper with business matters, unless it can be torn apart without interfering with either part of the letter.

Nice Winter So Far.

We have a very nice winter so far—plenty of snow for sleigh-riding, and no drifting—something rare here.

I have 14 good, strong colonies of bees in the cellar, and 10 out-doors packed in chaff. I appreciate the BEE JOURNAL, and wish it more than success.

ELMER BRIDENSTINE.

North Liberty, Iowa, Dec. 9, 1893.

A "Record Breaker" Next Year.

We have had two very poor seasons here for honey (this and the previous), but hope for a record breaker next year. I have kept bees for 15 years in Langstroth hives, and see no reason to change. I have 30 colonies to go into winter quarters with.

I met with a painful accident in getting my left leg broken on Oct. 14th, while driving a young horse, consequently I will be confined to the house almost all winter.

GEO. W. MORRIS.

Cornishville, Ky., Dec. 8, 1893.

Bee-Keeping in the Cherokee Strip.

I want to know whether or not bees will do well in the Cherokee, Oklahoma country. Can any of the readers of the BEE JOURNAL answer? I am going there in February or March by rail. I was there in the race, and got a quarter section of land. Can I ship my bees to advantage by rail? If so, how shall I prepare them for shipping? I expect to take one or two cars of freight. My location is south of Hunnewell, Kans., about 20 miles.

Farmersville, Mo.

C. A. SPENCER.

[Will some one who knows, kindly answer the question as to bee-keeping in the Cherokee country?]

Directions for shipping bees by rail may be found in any of the standard text-books, one or more of which should be in every bee-keeper's library. Bee-papers cannot publish over and over information that may be learned in almost any of the bee-books.—Ed.]

Pleasant Weather in Southern Calif.

The weather in the southern part of this State continues to be pleasant. We have had a few light showers of rain, but not enough to be of much account, and as the season has not advanced into that period necessary to bombard the clouds for rain, we have concluded to wait until the illuminating smiles of the bee-keepers advance into that state of brightness, which always means "Get there, Eli."

I was pleased to read the information on the matrimonial question which appeared in a very late number of the BEE JOURNAL. I can now imagine seeing its grinding effects upon the Rambler, and how the ruling qualities are taking effect. Let him take unto himself a wife, and ramble no more.

A. F. UNTERKIRCHER.

E. Riverside, Calif., Dec. 2, 1893.

Bees for Pleasure and Profit.

I became much interested last season in my bees, and had tolerably fair success with them for a poor season. I introduced seven golden Italian queens that I got from Texas, and lost two of them. They are beauties. I want to keep bees for both pleasure and profit, and I know I have much to learn. I think the BEE JOURNAL will be a great help to me.

NOAH MILLER.

North English, Iowa, Dec. 9, 1893.

Results of the Past Season.

I commenced the spring of 1893 with 15 colonies of Italian bees, which I wintered in a bee-house made above the ground. I did not lose a colony nor a queen. I took off 700 pounds of surplus comb honey, and increased to 32 colonies. On Nov. 17th I put them into winter quarters, with plenty of honey to keep them through the winter. The AMERICAN BEE JOURNAL is a welcome visitor ever week in the year. I am very much interested in Mrs. Atchley's department.

JESSE B. LEWIS.

Weston's Mills, N. Y., Dec. 6, 1893.

How to Fumigate Brood-Combs.

This fall I had a reserve force of 50 fine frames of brood-combs full of honey. Early in October I found the tracks of moths in them. After trying in vain to keep a sulphur smoke going in an air-tight box, I hit upon an excellent way to fumigate them. Let the fire go out in the cook-stove. Then remove the front and back covers, on one side of the stove. On or over these place a hive-body full of the frames; then another, and so on clear to the ceiling, and put a cover on the top of all.

I make a lot of sulphur cartridges by spreading a piece of newspaper out smooth on the table, and over this a piece of cotton-cloth. Then sprinkle this cloth very yellow with the flour of sulphur; roll it up

into a snug roll about an inch thick, tying it in several places with separate strings or wire thread. This is so the roll will not all come apart when the first string burns. I then cut the long roll into cartridges, about 4 or 6 inches long.

Place a handful of dull coals and ashes in the end of the stove under the frames, and place upon them two or three of the cartridges. Have ready some damp cotton cloths to smother down any blaze. Of course, through the front doors of the stove you can regulate the smoke perfectly, keeping all dampers shut tight so there shall be no draft. I trust now that no one will carelessly set their combs on fire and lay it to me.

My other half laughed at me for saying on page 698, that I raised the hive off the bottom-board the "width of a lath." He says it's the thickness of the lath. I guess he is right, and I am indebted to the BEE JOURNAL for the idea.

MRS. B. J. LIVINGSTON.

Centre Chain, Minn.

Got but Little Honey.

I got but little honey this year—not more than 100 pounds, all told, from 16 colonies, spring count. I have put into winter quarters 25 colonies, 18 of which I think are in good condition; the rest I will have to feed in the spring.

JOSEPH DUNBARR.

Scott's Mills, Ills., Dec. 2, 1893.

Mailed Queens—Very Yellow Bees.

On page 697, Rev. W. P. Faylor says, "Who ever saw a good laying queen after she had gone through the mails?" I think I have. I have an imported queen that came from Bologna, Italy, that is as fine a laying queen as any one could wish, and she is three years old. She was sent through the mails. I have had queens to live for four and five years after being shipped through the mails. I am well satisfied that it won't hurt a queen any more to stop laying in the summer than it does in the winter; if so, they would be worthless after swarming; but in the case of swarming, the queen prepares for swarming by reducing her egg-laying, that is Nature. And in shipping queens we must follow Nature as closely as possible. To do that we must give the queen a chance to free herself of eggs before caging. If she is properly caged, and not hurt in introducing, she will be as good as if she had not been shipped.

The shipping will not hurt queens, if they do not get chilled. But to take them from the combs, and cage and ship when they are full of eggs, I am sure they would be injured.

Now for the very yellow queens—I will admit they are mostly produced by artificial means, but if we can improve the color of the queen, then what is the reason we can't improve their laying qualities as well? The cause of the queens being yellower, that are reared artificially is, they are kept warmer while in the larval state, and bet-

ter supplied with royal jelly. Then the colony is only allowed just as many queen-cells as it can take proper care of, and it is impossible for them to start any more, and they will be well cared for, and not scattered all through the hive, a part of them to be neglected. Then we have the advantage of selecting the eggs or larvæ from the choicest queens, and like begets like, except where we improve.

Aurora, Nebr.

CHARLES WHITE.

Piping and Quahking of Queens, Etc.

After reading the various articles in discussing the disease known as bee-paralysis, my friend, Uncle John Doty, and myself decided to put in young queens in his diseased colonies, and in no instance did it fail to cure. I re-queen every year, and never have had a case yet.

Bees stored nothing in the forepart of the season but honey-dew. We got about 25 pounds of yellow honey per colony, and bees went into the winter with plenty of stores.

I ask Dr. Miller's pardon for not answering his question on page 376 in proper time; but I will say that I was called to Iowa by the fatal sickness of my father at that time.

All queens in the cell sound the same, and all queens out of the cell the same. What we believe is, that the bees do not hold back queens in cells, whether they want to swarm or not. A queen will hatch out (other surroundings favorable) if there is not a worker-bee within a mile.

Mr. Doty and I hatch our queens in full colonies in the brood-chamber, and do not take them out of the cage until we think all are hatched out; then we make nuclei out of that colony, and when those queens are laying we take them out and use them; and then put the nuclei together again—practically the same hive—giving them one of the queens.

Now if Dr. Miller will read my letter on page 281, and does not understand it yet, I will send him a diagram, if he would like one.

J. H. ROSE.

Galt, Mo.

The Ladies' Home Journal, of Philadelphia, Pa., and the BEE JOURNAL—both together for one year for only \$1.65. The first-named journal is the grandest monthly for the home that is published in the world to-day. New or old subscribers to either journal can take advantage of the low rate of \$1.65 for the two papers. This offer expires on Feb. 1, 1894. Send all orders to the office of the BEE JOURNAL.

A Binder for holding a year's numbers of the BEE JOURNAL we mail for only 50 cents; or clubbed with the JOURNAL for \$1.40.

Honey & Beeswax Market Quotations.

Rules for Grading.

The following rules for grading honey were adopted by the North American Bee-Keepers' Association, in Washington, and, so far as possible, quotations are made according to these rules:

FANCY.—All sections to be well filled; combs straight, of even thickness, and firmly attached to all four sides; both wood and comb unsoiled by travel-stain, or otherwise; all the cells sealed except the row of cells next the wood.

No. 1.—All sections well filled, but combs uneven or crooked, detached at the bottom, or with but few cells unsealed; both wood and comb unsoiled by travel-stain or otherwise.

In addition to this the honey is to be classified according to color, using the terms white, amber and dark. That is, there will be "fancy white," "No. 1 dark," etc.

CHICAGO, ILL., Dec. 4, 1893.—There were but few shipments of honey to this market last week. The cold weather started business up, and honey moved some better than heretofore. Fancy and No. 1 is getting scarce, and prices are on the upward tendency. Fancy, 16c.; No. 1 white, 15c.; fair, 14c. Extracted is moving slowly with plenty to satisfy demand. Beeswax, 20@22c. J. A. L.

CINCINNATI, O., Dec. 8.—Demand is good for all kinds of honey in the jobbing way, for family use. There is a slow demand from manufacturers. Extracted honey brings 5@8c.; comb honey sells at 12@16c. a lb. in a jobbing way for best white.

Beeswax is in fair demand at 20@23c. for good to choice yellow. C. F. M. & S.

CHICAGO, ILL., Nov. 1.—Fancy white comb honey brings 15c. per lb. Grades not grading first-class are not selling at over 14c., as there has been quite a quantity of California honey received here, and is offered at 14c. The quality is superior to most of that we receive. Dark comb honey sells slowly at 12@13c. Extracted ranges from 5@7c., according to color, quality, flavor and style of package. The trade in honey has been large this season. Beeswax, 22c. R. A. B. & Co.

ST. PAUL, MINN., Oct. 9.—Our market for comb honey is improving, and receipts since our last report have moved off fairly well, prices unchanged. We quote best white comb honey 14@15c. for California. Extracted lower under free offerings from the coast; we quote 5½@6c. for white or amber in five-gallon tins. S. & A.

NEW YORK, N. Y., Nov. 1.—Our market on white honey is weak and shows no activity. Supply is plenty, arrivals are large, and the demand is light. Hence prices have a downward tendency and concessions have to be made to effect sales. We quote: Fancy white, 1-lbs., 14c.; 2-lbs., 12c.; fair white, 1-lbs., 12c.; 2-lbs., 11c.; buckwheat is scarce—1-lbs., 11@12c.; 2-lbs., 10c. The market is well stocked with extracted of all kinds. We quote: White clover and basswood, 6@6½c.; California, 5½@6c.; Southern, 55@55c. per gallon. Beeswax, 24@25c. H. B. & S.

BOSTON, MASS., Oct. 9.—We quote honey as selling fairly well. Best white at 15c. Extracted, 6@7c. Beeswax, 25@28c. B. & R.

CHICAGO, ILL., Nov. 23.—The Chicago market has plenty of honey, and 14c. seems to be the outside price obtainable. Anything that will not grade strictly No. 1 must be sold at 12@13c. Large quantities have been sold, but the supply is at present in excess of the demand. Extracted finds ready sale at 6@6½c. for Northern honey; Southern, in barrels, 5c. Beeswax, 22@24c. S. T. F. & Co.

ALBANY, N. Y., Nov. 23.—Honey market is easier on light and mixed grades, and firm on buckwheat. Small combs sell at 11½@12c. H. K. W.

List of Honey and Beeswax Dealers,

Most of whom Quote in this Journal.

Chicago, Ills.

J. A. LAMON, 44 and 46 So. Water St.
H. A. BURNETT & Co., 161 South Water Street.

New York, N. Y.

F. I. SAGE & SON, 183 Reade Street.
HILDRETH BROS. & SEGELKEN,
28 & 30 West Broadway.
CHAS. ISRAEL & BROS., 110 Hudson St.

Kansas City, Mo.

HAMBLIN & BEARSS, 514 Walnut Street.
CLEMOMS-MASON COM. Co., 521 Walnut St.

Albany, N. Y.

H. R. WRIGHT, 326 & 328 Broadway.

Hamilton, Ills.

CHAS. DADANT & SON.

Cincinnati, Ohio.

F. MUTH & SON, cor. Freeman & Central avs

Square Glass Honey-Jars.

Messrs. Chas. F. Muth & Son, of 978 Central Avenue, Cincinnati, O., wish us to say that they again have a full supply of Square Honey-Jars, and can fill all orders promptly. They are handsome jars for the purpose, and should be used liberally among honey-producers. Send in your orders for them.

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Sample of the only 50c a year 16-page ag'l & home weekly; circulars, etc., of best household steam cooker; & terms to agents, all for 2c stamp Agents clear \$50 a week.

FARMER'S CALL, Quincy, Ill.

Sample paper free. New subs., 1 year, 25c.; 3 yrs, 50c.